DEVELOPMENT OF A REGULATORY POLICY FRAMEWORK FOR REAL ESTATE LENDING: REVIEW OF UNITED STATES REGULATION AND LESSONS LEARNED FOR POLAND

Prepared by

William C. Handorf, Ph.D.

Prepared for
East European Regional Urban Sector Assistance Project
Project 180-0034
U.S. Agency for International Development, ENI/EEUD/UDH
Contract No. EPE-C-00-95-001100-00, RFS No. 642

May, 1998
UI Project 06610-642

0

THE URBAN INSTITUTE
2100 M Street, NW
Washington, DC 20037
(202) 833-7200
www.urban.org

TABLE OF CONTENTS

EXECUTIVE SUMMARY

INTRODUCTION

At the present time, universal banks in Poland are investing an increasing volume of funds in mortgage credit; while several banks already have relatively large portfolios, numerous other banks have recently begun lending programs or have expressed interest in making loans secured by residential and commercial property. Thus, real estate loans in the banking system could expand rapidly depending on the trends in inflation, interest rates, the business cycle, and legislative proposals enacted in Poland, particularly the passage of the Act on Mortgage Banking. The National Bank of Poland (NBP) has developed a set of prudential rules structured to ensure that activities conducted by Polish universal banks contribute to a safe and sound banking system. In addition, the Mortgage Banking legislation specifically charges NBP with establishing regulatory rules for a variety of real estate lending parameters and procedures.

This report is one of a number of analyses funded by USAID and undertaken by the Urban Institute Consortium (UIC) for the National Bank of Poland. The report evaluates prudential regulation established by federal banking supervisors for real estate lending by banks in the United States. While the analysis focuses broadly on topics in prudential regulation felt to be relevant to Poland, there is a strong focus on topics of special priority for NBP and NBP s General Inspectorate (GINB): risk weighting rules for residential and commercial real estate loans, regulation of appraisal, and parameters for legal lending limits. A companion report, also being prepared by UIC for the National Bank, discusses these issues with respect to the regulation of mortgage banking in selected European Union countries.

The lessons learned from this review of prudential regulation of real estate finance in the U.S. and from a review of problems facing banks in the United States from the mid-eighties to mid-nineties many of them real estate related support a number of recommendations for NBP to consider. The recommendations are, in most instances, equally valid for regulation of mortgage lending by both universal banks and mortgage banks.

Problems in U.S. Real Estate Lending

Although banks fail for many reasons, the majority of the hundreds of bank liquidations that occurred in the U.S. between 1985 and 1994 can be traced to bad real estate loans, especially commercial real estate loans. Several regulatory examples derived from the dismal experience of U.S. banks during this time period provide the National Bank of Poland with important supervisory models:

Problems in the operations of a bank must be identified at an early stage if serious deterioration of the bank's condition is to be prevented.

Bank regulatory authorities must be committed to continuous monitoring of risk.

Bank regulation can limit the scope and cost of bank failures; it is unlikely to prevent failures related to systemic reasons.

The ability of regulators to curb excessive risk-taking on the part of sound banks is limited by the ability to identify risky activities before they produce serious losses and by competing public policy objectives the desire to promote rapid growth in real estate markets versus safety and soundness.

Bank failure can be traced to management's inability to identify, measure and control risk; management's willingness to engage in higher risk activities because of moral hazards that do not relate risk to cost; and management's willingness to commit fraud because the size of possible gain exceeds the likelihood and related cost of possible detection. The U.S. Congress and the bank regulatory agencies attempted to respond to the problems posed by excessive risk in real estate lending in a variety of ways, including the following:

Applying a high asset weight (i.e., 100 percent) for commercial real estate loans related to risk-based capital rules.

Establishing more thorough and more stringent appraisal guidelines.

Establishing recommended loan-to-value limits for different types of real estate loans.

Requiring risk management procedures to be implemented in banks making real estate loans.

Lessons Learned for Poland

The National Bank of Poland has developed a set of well-reasoned prudential rules to restrain excessive risk-taking by banks in Poland, and appears especially committed to continuous monitoring of risk within the banking system. This report recommends that the National Bank of Poland consider modifying or expanding certain prudential rules that relate to real estate lending and enhance monitoring efforts to ensure that banks do not engage in excessively risky real estate lending nor replicate the pattern of liquidations of U.S. banks that were related to problem real estate loans. The National Bank of Poland can learn from the expensive lessons related to real estate lending in the U.S.; however, there are clearly differences in law, appraisal standards, credit information and economic development that must be considered, and to the full extent possible the report s recommendations have been developed in light of these differences.

A brief summary of the recommendations includes the following key points:

Monitoring Real Estate Lending. Within the framework of GINB s already established inspection function, real estate lending should receive explicit attention. NBP should carefully monitor banks making real estate loans for the first time, banks which have rapidly increased their real estate portfolios, banks with a heavy investment in commercial real estate loans, banks with a high loan-to-asset ratio, and banks originating high-rate real estate loans. This monitoring process requires introduction of a *quarterly survey of underwriting trends* by experienced inspectors, more *detailed call reports* that differentiate the type of loan and interest income, and continued interaction with supervisory analysts currently responsible for *assessing economic trends* in Poland.

Risk Weights for Residential and Commercial Lending. It is suggested that NBP retain the 100 percent risk-weight for commercial real estate loans and residential real estate loans. With regard to residential lending, it is recommended that the National Bank of Poland may wish to consider an *interim strategy*. At the present time, the National Bank of Poland is not advised to reduce the risk-weight to 50 percent, which is common in many other countries; rather, NBP should consider waiting until more empirical evidence is available to measure residential real estate risk in Poland over a business cycle. Secondly, improvements in the legal and administrative framework for lending, such more as timely loan registration, changes in liquidation priority, and establishment of improved appraisal principles (see below) could also have an important impact on perceived and actual risk. Thus, as an interim measure, NBP could assign performing residential mortgage loans, underwritten with a moderate loan-to-value ratio of 60 percent or less, a 75 or 80 percent risk-weight for risk-based capital purposes. It should be noted that selection of this interim, more conservative, risk-weight level is not based on empirical findings in Poland (or in the U.S.); rather it represents the author s personal judgement in the trade-off between the desire to encourage housing lending while protecting the safety and soundness of real estate lending. Again, this suggestion should be viewed as an interim measure; the more conventional 50 percent risk weight should be considered for residential loans with certain profiles if experience with these newly growing portfolios supports a less conservative parameter.

Lending Limits. It is recommended that NBP reduce the loan-to-one-borrower limit from 25 percent to 15 percent of capital for commercial real estate loans to ensure banks obtain a more diversified portfolio and maintain adequate capital should credit problems develop in Poland's commercial real estate market.

Staff Training in Real Estate Lending Risk. It is suggested that NBP/GINB expand the number of illustrations of real estate loan transaction risk elements and portfolio risk elements for inspectors evaluating banks. Such illustrations could be included in expanded sections of the *On-site Inspection Manual*. In addition, since real estate lending monitoring is a relatively new field, NBP should provide inspectors with formal training on the specific risks inherent in real estate lending.

Regulation of Appraisal. A lengthy set of recommendations with regard to appraisal are discussed in the report. These include recommendations for (1) establishment (acceptance or rejection) of final valuation by certified and licensed appraisers rather than by bank personnel; (2) establishment of appraisal principles by NBP, to which banks would respond by establishing appraisal policies in accord with NBP s principles; (3) hiring by NBP of at least one certified appraiser, or training an existing inspector, and expanding the number of certified appraisers regionally as real estate lending increases within the banking system; (4) working with the Polish Federation of Valuers to agree on an certification approval process for licensed appraisers; and (5) establishment of more conservative rules for use of the three valuation models (market, income, and cost), including which models should be used for commercial and residential appraisal and how differences in results of the models should be reconciled.

DEVELOPMENT OF A REGULATORY

POLICY FRAMEWORK FOR REAL ESTATE LENDING:

REVIEW OF UNITED STATES REGULATION

AND LESSONS LEARNED FOR POLAND

BACKGROUND

USAID has been assisting the National Bank of Poland (NBP) with regulation, supervision and other aspects of banking sector reform through contracts with the KPMG/Barents Group and the Urban Institute Consortium. The Housing Finance Technical Assistance Program, which is managed for USAID by the Urban Institute Consortium (UIC), is assisting the NBP and working with the ongoing Barents program by addressing the development of regulatory and supervisory issues that stem specifically from housing finance. This report reviews real estate regulatory practice in the United States and draws lessons from this review for Poland; a companion report, being prepared by Loïc Chiquier, addresses regulatory practice for mortgage banking in selected European Union countries. Previous reports prepared by UIC include Regulation and Supervision of Real Estate Lending , also by William Handorf; Regulation of the Risks of Commercial Real Estate , by Michael Lea, with contributions from UIC team members William Handorf and Jacek Łaszek, and from Empirica; and Analysis of Dual Index Mortgages (DIMs) from a Regulatory Perspective , by Loïc Chiquier.

This report identifies key risk elements applicable to real estate lending. The analysis focuses on both residential and commercial real estate financing, and develops a prudential regulatory structure for the NBP to identify, measure and control risk within either a universal bank or a mortgage bank offering mortgage credit in Poland. The present analysis draws heavily upon the experience of banks and bank regulatory agencies in the United States.

Real estate is an important component of capital formation in any country. Residential real estate is required to meet the housing needs of the population. Commercial real estate provides a physical location to conduct commerce and engage in the production of goods and services. To illustrate the economic importance of land and structures in the U.S., real estate comprises approximately 24 percent of the assets owned by households, and about 29 percent of assets owned by non-financial corporate business as of the end of 1997. Real estate construction invariably provides a major source of employment for households, and requires significant purchases of building materials. For example, residential construction represented about four percent of the U.S. Gross Domestic Product in 1997. Real estate construction and sales also provide a powerful economic multiplier for the sale of furniture and household appliances. Very simply, real estate represents a major source of wealth in developed countries, and construction provides an important foundation for economic expansion.

Given its durability and high value, real estate is heavily financed by credit. In the United States, debt secured by real estate represents approximately 25 percent of the U.S. $21 trillion of debt outstanding as of the end of 1997. Deposit financial institutions, to include commercial banks, savings banks and credit unions, finance almost 40 percent of the mortgage credit. The rest of real estate finance in the U.S. is provided by insurance companies and other capital market institutions and mortgage-backed securities guaranteed by governmental secondary mortgage market agencies (i.e., Federal National Mortgage Association, Government National Mortgage Association, and Federal Home Loan Mortgage Corporation).

Many commercial banks have been adversely affected by real estate finance. Hundreds of commercial banks and savings banks in the U.S. have been liquidated or merged with other institutions by appropriate regulatory supervisors for reasons related to problem real estate loans. The objective of this report is to review the sources of risk applicable to residential and commercial real estate lending in the U.S., and apply the results to Poland where relevant. Among other topics, the report:

Assesses prudential regulatory guidelines, such as risk-weighted capital rules, loans-to-one borrower restrictions, and appraisal principles; these must be structured to limit real estate loan transaction risk and related portfolio risks to tolerable levels.

Analyzes real estate lending transaction risks, including default risk, interest rate risk, and liquidity risk.

Highlights regulatory issues surrounding real estate lending (e.g., CAMEL+), which is one of the key frameworks for GINB s On-Site Inspection Manual.

This report provides the NBP with "lessons learned" from real estate lending by deposit financial institutions in the United States between the early-1980s and the mid-1990s. As will be developed, the experience was expensive in terms of operating losses suffered by banks, resultant bank failures, fiscal deficits incurred by the government, and the loss of confidence in the banking system by the public. In selected cases, the losses were exacerbated by easing prior regulatory restrictions or not enforcing existing rules.

The report is structured in five sections. Section two emphasizes the experience of U.S. banks and savings banks with real estate loans. Section three relates U.S. practice to Poland's real estate market, evolving real estate lending procedures, and existing prudential regulatory standards. The last section summarizes the report's findings and offers key recommendations for the National Bank of Poland regarding prudential regulation of real estate lending in Poland.

THE RISK OF REAL ESTATE LENDING FROM THE U.S. PERSPECTIVE

Bank Failure

Between 1980 and 1994, over 1,600 banks failed in the United States. These failures represented approximately 7.6 percent of the 14,600 banks existing as of the end of 1979, and 16.2 percent of banks newly chartered during the same time period. The failure rates can be traced to a variety of factors, including: economic, financial, legislative and regulatory, and managerial. Real estate lending contributed to the failure rate during the late 1980s and early 1990s. Bank failures peaked in 1988, and bank failures exceeded 200 per year between 1987 and 1989. The large number of bank failures contributed to a loss of confidence in the banking system. The bank failures also encouraged political leaders to enact laws that changed prudential regulation.

Banks failing in just three states Texas, New York and Illinois incurred problems equivalent to almost 60 percent of the assets of all failed banks between 1980 and 1994. Large banks failed in these states. Similarly, more than 20 percent of banks chartered in a specific state failed during the time period studied (percentage of banks failing indicated parenthetically): Texas (44 percent), Alaska (42 percent), New Hampshire (32 percent), Illinois (26 percent), Oklahoma (24 percent), and Connecticut (22 percent). The high geographic incidence of failure can be traced to the following factors:

Severe economic downturn related to the collapse of energy prices adversely affected banks in Alaska, Louisiana, Oklahoma, Texas and Wyoming.

Real estate-related downturn hurt banks in California, the Northeast and the Southwest.

An agricultural recession of the early 1980s caused bank problems in the Midwest and Texas.

An influx of banks chartered in the 1980s led to many bank failures in California and Texas.

Prohibitions against branching limited the ability of banks to diversify their loans geographically and to fund growth through more stable core deposits afflicted banks in Colorado, Illinois, and Texas.

It is important to note that although real estate lending contributed to bank failure in the U.S., it has not been the sole factor leading to failure. Inadequate management, trends in both the national and regional economies, and shifts in banking and tax legislation and prudential regulation have all contributed to bank failure. Failing banks, however, often exhibit similar financial profiles prior to failing.

Based on empirical analyses of banks that fail versus banks that survive, regulatory authorities have been able to identify certain financial ratios correlated with subsequent supervisory problems. Failing banks invariably possess:

Higher loan-to-asset ratios. Loans tend to be less marketable than investment securities, and expose banks to more credit risk given a higher risk weight for risk-based capital rules.

Higher commercial real estate-related-loan-to-asset ratios. Commercial real estate loans are especially vulnerable to several risk factors: high loan-to-value ratios, a long cycle that characterizes the development and use of real estate, and economic recessions.

Higher interest and fees-to-loans. High interest rate loans typically are priced to reflect more credit, interest rate, or liquidity risks.

The above three ratios typically exist three years prior to bank failure. As such, these ratios allow regulatory supervisors to react and stem financial problems prior to the problems becoming so severe as to require bank liquidation. As either bank failure or supervisory resolution of bank problems related to problem real estate loans become more likely, failing banks also exhibit lower equity-to-assets, lower return on assets, and higher non-performing assets-to-total assets one year prior to liquidation. The later ratios reflect poor underwriting.

Bank failures also are correlated with national and regional economic trends. Banks that later fail often react aggressively to rising credit demand based on economic expansion and rising prices of farmland, oil, or real estate. Failing banks originate a large number of commercial, industrial and commercial real estate loans that are unable to cope with a recession that follows a period of rapid expansion and speculative investment activity. Wide swings in real estate contribute to the severity of economic cycles. Commercial real estate markets deserve special attention because "boom and bust" activity in these markets has been a leading cause of losses at both failing and surviving banks. Key economic variables that have correlated with rising bank failure include:

Economic recession represented by declining gross domestic product, industrial output and real estate construction.

High and increasing unemployment that adversely affects repayment of residential real estate and installment loans, and leads to economic recessions.

High and increasing inflation-adjusted rates of interest that reflects the central bank's desire to slow economic growth and/or retard inflationary pressure by monetary restraint.

Geographic regions growing sharply higher than national averages that later turn from "boom to bust" have been especially prone to bank failure. Loans are made on the premise that past trends will continue indefinitely.

Commercial real estate lending has contributed to many bank failures. Commercial real estate is inherently risky because of the long period between the acquisition of land and the construction of buildings. When projects are complete, demand conditions can change dramatically due to shifts in the national or regional economy. Overbuilding leads to declining rental rates and high vacancy rates. High business and financial leverage increase the volatility of returns. Changes in tax policy also contribute to volatile real estate prices.

Poorly timed changes in prudential regulation and legislation have contributed to problems in the U.S. banking system. Many of these changes have contributed to real estate-related bank failures:

The Depository Institutions Deregulation and Monetary Control Act of 1980, among other factors, phased out interest rate ceilings that restricted the maximum interest rate banks and savings and loans could pay on deposit products. Prior to this change, banks would suffer deposit withdrawals and resultant liquidity problems when open market rates of interest exceeded regulatory ceilings. The legislative change allowed deposit financial institutions to pay market rates of interest to retain deposits. However, savings and loan institutions, in particular, experienced massive interest rate risk problems because the majority of their assets were invested in long-term, fixed rate residential mortgage loans. The change in law shifted liquidity problems to interest rate risk, earnings, credit risk and finally capital problems. When interest rates on deposit products increased due to the phase out of regulatory ceilings and high interest rates of the early-1980s, many savings and loans and later banks responded by originating high rate commercial real estate loans. The high interest rates, however, were not commensurate with the even greater asset quality risk.

The Garn-St.Germain Depository Institutions Act of 1982 expanded the investment and loan powers of savings and loans. The newly introduced lending authority for commercial loans and consumer loans was designed to allow savings banks to reduce interest rate risk created by the mismatch of short-term deposits and long-term fixed rate mortgages. The Act also increased the loan-to-one borrower rule for national banks and all other deposit institutions from 10 percent of capital to 15 percent of capital plus another 10 percent if secured by readily marketable collateral. *It should be noted that the increased loan-to-one borrower rule later increased loan losses to defaulting large borrowers.*

The Tax Reform Act of 1986 was designed to increase tax revenues and reduce incentives provided investors in commercial real estate. Prior tax legislation in the early 1980s had provided major incentives to invest in real estate to create economic growth and promote employment opportunities. There are three important financial reasons to invest in commercial real estate: (1) net operating income; (2) appreciation of the property; and/or (3) tax incentives and tax shields. The Act significantly reduced the tax shield created by owing commercial real estate by lengthening depreciation schedules, limiting application of accelerated depreciation models, decreasing marginal tax rates but increasing capital gains rates, and limiting the deductibility of real estate losses against other income. The shift in taxation was sufficient to reduce the return on commercial real estate investment by about 30 percent. Real estate values fell.

The Basle Committee on Banking Regulation and Supervisory Practices reached agreement on a general set of principles in 1988 regarding the definition of capital and risk weights for different assets. The U.S. regulatory authorities debated whether banks should be able to include the allowance for loan losses within Tier I capital, whether subordinated debt should count as Tier II capital, and whether banks should still be required to meet minimum equity-to-assets rules. There were many compromises. For example, all banks with a "1" CAMEL rating were required to possess capital-to-assets of at least three percent; lower rated banks were required to possess a four or five percent capital ratio. Although certain residential loans are weighted at 50 percent for purposes of current risk-based capital standards, the Federal Reserve then proposed that such loans be recognized as a 100 percent risk-weighted asset. The central bank was concerned with the interest rate risk created by long-term, fixed rate loans, not with asset quality issues.

The Federal Deposit Insurance Act of 1991 responded to the many failures of banks in the prior decade by imposing more restrictive regulatory standards. Among other factors, the banking agencies imposed maximum loan-to-value (LTV) ratios for banks making or purchasing real estate loans. The recommended maximum LTV ranged from 65 percent for raw land to 85 percent for improved property and 90 percent for 1- to 4-family residential loans.

While the majority of the laws illustrated are applicable to the U.S., the underlying themes are applicable to Poland. Legislation and resultant regulation can encourage or discourage investors and banks to select certain types of assets. A shift in law or regulation can create unanticipated effects.

Ultimately, banks fail because: (1) management is unable to identify, measure and control risk; (2) management is willing to engage in higher risk activities because of moral hazards in which the cost is unrelated to the risk assumed; and/or (3) management is willing to commit fraud given the size of possible gain versus the likelihood of being detected. There are three traditional methods of controlling such risks:

First, the banking regulator must examine and supervise the activities of banks with a frequency related to the financial profile of the bank and the trends observed in the national and regional economies.

Second, risk-based capital standards and risk-based deposit insurance payments should link risk exposure with minimum capital ratios and required deposit insurance payments.

Third, banks must be susceptible to market oversight derived from uninsured depositors and creditor discipline.

Several lessons can be learned from the performance of U.S. bank regulators in the last 15 years:

Problems in the operations of a bank must be identified at early stage if serious deterioration of the bank's condition is to be prevented.

Bank regulatory authorities must be committed to continuous monitoring of bank risk.

Bank regulation can limit the scope and cost of bank failures; it is unlikely to prevent failures related to systemic reasons.

The ability of regulators to curb excessive risk-taking on the part of sound banks is limited by the ability to identify risky activities before they produce serious losses and by competing public policy objectives.

Although banks fail for many reasons, the majority of failures of U.S. banks between 1985 and 1994 can be traced to excessively risky commercial real estate loans.

Commercial Real Estate Risk

As previously described, overly risky origination and purchase of commercial real estate loans, coupled with a relatively large investment in commercial real estate loans, have contributed to many bank problems in the U.S. between 1985 and 1994. For example, three years before a regional recession, banks that failed in the Northeast U.S. had a commercial real estate mortgage-to-assets ratio of 13 percent versus 8 percent for banks that survived. The commercial real estate building cycle is long-term; the regional or national economy can change dramatically upon completion of a building structure from that applicable when land is first acquired and developed. Many new properties can be constructed at the same time leading to subsequent over-capacity, declining rents and high vacancy rates. Major tenants may vacate a building for a newer or better located property. Cash flows of real estate are significantly affected by leverage, interest rates, and the applicable tax code. If a property is generating adequate net operating income or appreciating, the investor will make loan payments on a timely basis; if not, the investor will voluntarily or involuntarily (i.e., foreclosure) put the property back to the bank. When problem commercial real estate loans are resolved by settlement, workout or foreclosure, a bank invariably incurs a loss. The loss severity related to defaults and foreclosures typically ranges between 20 percent and 50 percent loss.

Banks can reduce the transaction risk related to commercial real estate loans by increasing interest rates and fees, decreasing loan-to-value ratios, increasing restrictive covenants (e.g., require larger guarantee and/or more strong guarantors) and so forth. Banks can decrease portfolio risk by selling participation to other banks, limiting loans-to-one borrower, diversifying commercial real estate loans by type of property and location of property, and ensuring that loan conditions are tightened near the end of a business and building cycle.

U.S. banking authorities focus on examination and prudential regulation to manage risk within banks. Commercial banks provided 46 percent of funding for commercial real estate loans in 1997. Credit rating agencies and investment banks also routinely identify the components of risk within a commercial real estate loan because 44 percent of commercial real estate loans were funded by asset-backed securities in 1997. *The loan-to-value ratio (LTV) so important to prudential residential real estate loan regulation has not proven to be the best indicator of default in a commercial loan.* Rather, LTV is only one of a number of factors strongly influencing commercial loan behavior:

The debt service coverage ratio (DSCR) has been found to be the measure most predictive of default in a loan. The DSCR equals a property's net operating income divided by annual principal and interest to service the real estate loan. Based on an empirical analysis of commercial real estate loans in the late-1980s and early-1990s conducted by Fitch Investors Service, loans with a DSCR greater than 2.8 times defaulted with an average annual rate of 1.7 percent. Even loans with the appearance of low risk, such as a very high DSCR, suffer losses when a major tenant vacates a building; commercial real estate lending is an inherently risky activity. Loans with a DSCR of 1.2 times defaulted with an average annual rate of 5.3 percent, while loans with a coverage of .85 times defaulted with an annual rate of 6.7 percent.

Although the DSCR is a better predictor of default than the LTV, the latter ratio is predictive regarding the loss that results from default. Commercial real estate loans with a higher LTV expose banks to more loss upon default.

Fixed rate loans default less frequently than floating rate loans. Floating rate loans expose investors to the consequence of restrictive monetary policy implemented by the central bank and increasing interest rates. Fixed rate commercial real estate loans defaulted with an average annual rate of 3.1 percent versus a 4.7 percent rate exhibited by floating rate loans.

Fully amortizing loans possess a distinct credit profile compared to loans to be repaid with a large balloon payment. Amortizing loans require periodic reduction of principal, hence reduce the book value of a loan over time. Fully amortizing loans defaulted with a 2.4 percent annual rate compared to a 5.9 percent shown by balloon loans.

> Properties susceptible to the loss of one tenant or properties that incur substantial fixed operating costs default more frequently than real estate occupied with many tenants and relatively low fixed operating expenses. Warehouses defaulted with an average annual rate of 2.0 percent, compared with a 3.8 percent rate for industrial properties, 4.3 percent for office buildings, 4.5 percent for retail space and 5.1 percent for hotels and motels.

Studies of commercial real estate loan risk also consider factors other than the ratios and loan structure factors identified above. Newer buildings that are well designed and constructed and show little deferred maintenance default less frequently than older structures with physical and functional depreciation. Borrowers with a more consistent loan payment history and absence of bankruptcy contribute to loans with a lower default rate. Properties located in areas that possess a diversified economic base default less than regions dependent upon one industry.

The U.S. bank regulatory agencies direct especial attention toward commercial real estate loans originated and/or purchased by banks. Even "low risk" commercial real estate loans have defaulted with an average annual rate close to two percent. *Furthermore, empirical evidence suggests that U.S. real estate is less risky than properties located in developing countries and emerging markets.* Academic researchers have studied the risk/reward matrix of returns earned on real estate in emerging markets, including countries such as Poland, with developed markets. Between 1989 and 1995, real estate in emerging markets earned about 50 percent higher returns than real estate in developed markets. However, the standard deviation of return, which provides a proxy for risk, was almost 87 percent greater in the emerging markets. Although the real estate investment portfolios evaluated represented a diversified sample of properties in a variety of countries, the results are instructive. There is no reason to believe that commercial real estate cash flow and value are less volatile in Poland than the U.S.; the risk of commercial real estate loans is likely to be as high or higher in Poland than the United States. Consequently, prudential regulation between the two countries should share commonalities.

Although commercial real estate has been the focus of attention by bank regulatory supervisors in the U.S. and other developed markets, residential real estate lending tends to be more common in bank portfolios. Of the U.S. commercial banking industry's US $1.2 billion invested in mortgage loans as of the end of 1997, 61 percent comprised home loans, 32 percent commercial real estate loans, 4 percent multifamily or apartment loans, and 3 percent farm loans. Residential real estate loans typically expose banks to less default exposure, but relatively more liquidity risk and interest rate sensitivity than commercial real estate loans.

Residential Real Estate Loan Risk

There have been many academic, credit rating agency, investment bank and regulatory studies of home mortgage default. The following empirical evidence represents a compilation of statistics by the Federal Reserve. Based on a sample of residential home loans originated between 1975 and 1983 and purchased by Freddie Mac, about 2.2 percent of the home loans defaulted. The indicated default rate is significantly lower than that experienced on commercial real estate loans evaluated in the prior section. On average, the home loan defaults produced losses of 39.2 percent. The loss severity represents the total loss incurred before mortgage insurance payouts, if any, resulting from foreclosure. The loss recognizes lost interest and transaction costs related to foreclosure.

There are many factors that affect the probability of default for home loans. *In contrast to commercial real estate loans, the LTV ratio is an excellent indicator of not only loss but also likelihood of default.*

Approximately .2 percent of loans with a LTV equal to 70 percent or less defaulted compared to 1.1 percent with a LTV between 71 percent and 80 percent, 2.7 percent with a LTV between 81 percent and 90 percent and 6.2 percent with a LTV exceeding 91 percent. Figure 3 illustrates the relationship between LTV and default, and also identifies other factors important to home loan loss.

The loss severity also increases with the LTV of a home loan. The average loss related to a home loan with a low LTV, such as under 70 percent, equals 22 percent compared to a loss of about 48 percent with a high LTV, such as above 90 percent. The loan-to-value ratio is a very important factor that describes the probability of default and the loss as a result of foreclosure in the U.S. market.

The probability of default also varies according to the credit score of a mortgagor. The credit scores reflect the past bill paying habits, cash reserves and net worth of an individual. For example, individuals with a "low" score are over 20 times more likely to default than a "high" credit score.

Individuals with at least three months of cash reserve set aside for possible contingencies are far less likely to default than households with one month or less of cash to cover unexpected loss of income due to sickness or unemployment.

Individuals allocating less than 39 percent of income to repay total household debt are far less likely to default than households with more than 43 percent of income committed to debt repayment; the probability of default increases further when the high debt household has less than one month of cash reserve set aside. The same relationship holds when housing debt as a percent of income is less than 34 percent compared with more than 38 percent.

Similar to commercial real estate loans, adjustable rate home loans default more frequently than fixed rate loans. In part, the adjustable rate loan exposes mortgagors to the risk of higher interest rates effected by the central bank to restrain inflation. Because adjustable rate loans typically start with a lower rate than fixed rate loans, some individuals try to stretch their monthly payment to provide a larger loan via an adjustable rate loan. Regardless of reason, variable rate loans default more frequently than fixed rate loans.

Residential debt has proven less costly to banks in the U.S. than commercial real estate loans. Individuals will often work additional jobs to maintain a home for family. Home loans are individually much smaller than commercial loans. There are more prospective purchasers for a foreclosed home than foreclosed commercial property. Although residential real estate loans have caused far fewer banks to fail than commercial real estate, both types of property are valued by appraisers. The LTV ratio important to defining the probability of default for residential loans and the severity of loss for both commercial and residential loans, is a function of the appraised value. U.S. banks have incurred many loan problems from flawed appraisals. Some of the issues surrounding appraisal are discussed below.

Appraisal Problems

The National Association of Review Appraisers periodically sample review appraisers regarding common problems encountered in the valuation process. The following list illustrates the type of problems banks encountered in the 1980 to 1994 time period. The survey results change very little year-to-year:

The appraised value is based on mathematical errors.

The exhibits for the appraisal are not relevant to the property.

The valuation fails to recognize the "highest and best use" of the property.

The comparables used for the market model are not comparable or all comparables are given equal weight when some properties are more comparable.

The adjustments applicable to the market model are not supported or not undertaken at all.

There are inconsistencies between the cost, market, and income approaches regarding the remaining economic life of the property, depreciation and returns required to establish a capitalization rate.

Capitalization rates are not current or not adequately supported for the income model.

The income model fails to recognize certain costs, such as management expenses, vacancy rates, bad debt, replacement reserves and so forth.

Short-term leases are treated as if long-term in nature.

Legal problems of title are not identified or discussed.

The report fails to indicate why a given model was not used.

The valuation fails to fully describe neighborhood and regional trends.

Current federal regulation requires that federally insured deposit institutions in the U.S. obtain an outside or independent value of collateral for commercial real estate loans. The appraiser is expected to be knowledgeable about real estate values and independent of the credit decision. Yet, evidence about appraisals during the 1980s in the U.S. show that flawed and/or fraudulent appraisals were often used by banks that later failed due to bad commercial real estate loans. *The Financial Institutions Reform, Recovery, and Enforcement Act of 1989* required bank regulatory agencies to establish licensing and certification standards for individuals conducting appraisals for banks. The Act also identified recommended maximum LTV ratios for different types of real estate loans.

Clearly, the U.S. banking system suffered many losses due to real estate loans, especially commercial real estate loans. The banks that failed had more loans, more commercial real estate loans, and higher rate loans than banks that were able to weather the boom and bust cycle common to market economies and real estate. The bank regulatory agencies, appraisal societies and Congress all responded by enacting more restrictive prudential regulation of bank real estate lending activities. In many cases the restrictions followed periods of regulatory easing and forbearance. The prudential regulations are described in more detail in section three; the Polish real estate market and emerging underwriting conditions are described below.

Poland's Real Estate Loan Market

In 1995 the number of banks involved in mortgage lending in Poland began to increase, and has continued to expand since. Currently, only a few banks have a significant volume of mortgage credit, but this could change rapidly depending on the trends in interest rates in Poland, the continued growth of real income, and the legislative initiative provided for mortgage banks. The NBP, similar to bank regulatory agencies in the U.S. and other developed countries, has established a set of prudential rules to restrain excessive risk in Poland's banks. The rules appear appropriate given the development of the legal, credit, and appraisal infrastructure within Poland, and the volatility of the economy and regions in Poland. Some important comments about the banking sector and real estate finance are relevant here, however:

The banking industry does not yet provide the NBP with detailed information regarding types of loans, interest income related to loan classes, or identify default rates related to loan classes.

Approximately one-quarter of households in Poland have an active bank account; there is limited information regarding financial flows of individuals. The percentage of households with bank accounts is higher in Warsaw.

Prospective debtors do not like to have prior financial records evaluated from a cooperative housing unit or a bank, if used. Although banking law encourages banks to share credit information, unless a mortgagor appears on a "bad customer" list, it is unlikely that persons with a credit problems will be identified easily.

There is no well identified definition of value in Poland; appraisal models include the three models used worldwide: the cost model, income model, and market value or long-term sustainable value. However, the information systems necessary to support high quality appraisals using any of these models do not exist and there is also systematic under-recording of market transaction prices during registration.

The lien established by a bank is recorded in the fourth chapter of a Land Register. The lien is effective two weeks after entry. However, it can take two months or longer to enter the lien. Further, a "legal mortgage" or a "state privilege mortgage" may take precedence over a bank lien.

In the event of foreclosure, court costs, state taxes, social security expenses, and employee wages all take precedence to a bank lien even if no legal mortgage or state privilege mortgage exists. Foreclosure can take months or years to effect after 30 days notification is provided to delinquent borrowers.

Banks reduce credit risk in the residential mortgage market by offering much lower LTV ratios, say 50 percent, than common in developed markets. The LTV may be increased, say to 65 percent, if the loan is guaranteed. Banks also tend to adopt more conservative effort ratios than common in developed markets. The typical principal and interest payment is less than 25 percent of an individual's gross income adjusted for social security expense.

Banks attempt to manage credit risk in the commercial market by offering LTV ratios a little lower, say 65 percent to 70 percent, than in developed markets. The DSCR are similarly lower, say 1.2 times, than required by U.S. banks. There is little difference in underwriting standards for commercial real estate in Poland as compared with the U.S. market.

Dual Index Mortgages (DIMs) offer an affordable but more complex mortgage product. Other real estate loans are originated on an adjustable rate basis with interest rates tied either to a bank's cost of funds index or the Warsaw Interbank Offer Rate (WIBOR).

Most mortgage loans are originated for a term between five and fifteen years; the term is substantially longer than deposit tenor. It may also be that a considerable proportion are prepaid.

The NBP does not currently make Lombard Loans secured by real estate loans. Also, the Mortgage Fund is expected to play a diminished role in Poland's mortgage market, which will also diminish access to liquid funds.[1]

The majority of Articles in the Banking Law and sections of Regulation on Banking Law are related to business loans and securities. That emphasis was appropriate given the relatively low level of real estate lending in Poland's banking system, but as NBP has indicated, and as this report argues, development of a strong prudential framework is now required.

Given the absence historically of market-based real estate lending, there are few

[1] Lombard Loans are short-term loans from NBP secured with collateral acceptable to NBP.

specific examples of key lending risks of residential real estate loans or commercial real estate loans in the well written and otherwise comprehensive *On-site Inspection Manual.* Again, the lack of examples was appropriate in the past, but NBP is now moving to remedy this situation.

The consequence of the these factors, identified through the author s interviews with NBP staff and other experts in Poland; NBP memoranda, laws and regulations; and Housing finance Team reports, is that *real estate lending is more risky in Poland than in the U.S.* The NBP is well advised to maintain its existing prudential restrictions applicable to real estate loans; furthermore, in some cases, existing rules should be tightened until a more detailed credit, appraisal and financial infrastructure is developed to control risk. Section 4.0 provides recommendations and suggestions for many of these rules.

PRUDENTIAL REGULATION OF REAL ESTATE LENDING

The U.S. Environment

U.S. bank regulatory agencies typically disagree about how best to implement, modify and eliminate prudential rules. The agencies often disagree among themselves, dispute findings of bankers, and contradict conclusions of industry trade groups representing contractors, appraisers, attorneys, and so forth. The NBP will be subject to similar pressures.

Prudential regulation should be designed to preserve the safety and soundness of the banking system, yet promote capital formation of the country. Safety and soundness requires banks to install a risk management system that identifies, measures, monitors and controls risk. As with any other types of investment, the risks involve capital, asset quality, management, earnings, liquidity and sensitivity; housing finance, however, exposes banks to various unique risks. All banks should have written policies, controls and procedures designed to manage risk. The following prudential regulation represent additional ways U.S. banking regulators limit risk exposure related to housing finance. The key rules include: 1) risk-based capital weights, 2) loan-to-value limits, 3) loan-to-one borrower limits, and 4) appraisal guidelines.

Risk-based Capital Weights

Assets in U.S. banks are assigned to one of four risk weights of 0 percent, 20 percent, 50 percent and 100 percent. The zero percent weight is reserved for assets such as cash, deposits with the Federal Reserve, or obligations backed by the U.S. government. The 20 percent weight is reserved for claims guaranteed by U.S. banks, or U.S. government-sponsored agencies. Most real estate loans require a higher rating.

Residential loans on one-to-four family loans approved in accordance with prudent underwriting requirements, and not past due by 90 or more days or in non-accrual basis are assigned a 50 percent risk weight for the purpose of meeting risk-based capital rules. As discussed previously, the 50 percent risk weight was strongly disputed by the bank regulatory agencies. The Federal Reserve believed that the long-term fixed rate structure of home mortgage loans common in the U.S. exposed banks to interest rate risk; the central bank recommended a 100 percent risk weight. The 50 percent risk weight ultimately focused on the low default exposure and loss severity of home loans previously discussed in Section 2. However, banks with more portfolio interest rate risk are now required to maintain more capital or suffer the consequence of a lower sensitivity and composite CAMEL+ rating.

Other housing finance assets, such as commercial real estate loans and acquisition, development and construction loans, are assigned a 100 percent risk weight.

For a short period in the early 1990s, the Office of Thrift Supervision required savings and loans to establish a 200 percent risk weight for other real estate owned that was derived from foreclosure. The high weight obviously penalized savings and loans burdened with the results of bad commercial loans; the weight also served to discourage savings and loans from making new commercial loans given the potential resultant effect on risk-based capital requirements.

Supervisory Loan-to-value Limits

Given the problems created by real estate loans, especially commercial real estate loans, the U.S. banking supervisors crafted limits regarding LTV ratios for insured banks. Such guidelines do not exist for business loans secured by other assets, say inventory, accounts receivable or equipment. The supervisory guidance requires banks to establish their own LTV limits; however, internal limits are not supposed to exceed the following:

65 percent LTV for raw land loans
75 percent LTV for land development loans
80 percent for commercial, multifamily and nonresidential construction loans
85 percent for 1- 4-family residential construction loans
85 percent for improved property loans
No stated limit for owner-occupied 1- to 4-family loans and home equity loans

Although the guidelines do not specify a limit for the residential home loans, loans with a LTV exceeding 90 percent are expected to possess mortgage insurance or be secured by readily marketable collateral. It is instructive to note that some banks evade the LTV rules by advancing credit above the supervisory limit as an unsecured business loan. The combined loans, however, are subject to a loan-to-one-borrower constraint. The additional unsecured loan exposes banks to more risk than suggested by simply allowing a higher LTV threshold.

The banking agencies provided banks some relief regarding the above LTV supervisory limits. Banks can originate or purchase loans with LTV ratios larger than the limit in an amount not to exceed 100 percent of capital. The majority of loans with LTV ratios exceeding the limit are residential 1- to 4-family loans. Non-residential loans with high LTV ratios cannot exceed 30 percent of capital.

Loan-to-one-borrower Limit. Until 1982, the banking agencies in the U.S. limited loans-to-one borrower to 10 percent of unimpaired capital and surplus. The Office of Comptroller had been contacted by many small banks that the loan limit was too small and community banks lost "good" loans to larger banks. The loan-to-one borrower limit is designed to reduce the consequence of a few loans defaulting with a loss severity sufficient to produce sufficient losses to erode capital. The banking agencies increased the limit from 10 percent of unimpaired capital to 15 percent of Tier I and Tier II capital (plus any additional allowance for loan loss not recognized under Tier II rules). A bank may lend another 10 percent of capital, as defined, if secured by readily marketable collateral. In total, then, a bank may extend credit to one borrower equal to 25 percent of capital. The U.S. banks that failed between 1985 and 1994, would have had far fewer losses if the loan-to-one borrower rule not been liberalized prior to the devastating commercial real estate loan losses.

Appraisal Rules. The banking agencies were required by Congress in 1989 to establish rules related to appraisals. Among other factors, the rule defined the term *market value*.

Market value means the most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

Buyer and seller are typically motivated.

Both parties are well informed or well advised, and acting in what they consider their own best interests.

A reasonable time is allowed for exposure in the open market.

Payment is made in terms of cash in U.S. dollars or in terms of financial arrangements comparable.

The price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale.

The appraisal rules differentiate *State-certified appraisers* from *State-licensed appraisers.* Certified appraisers must complete more stringent course work and successfully finish examinations offered by the Appraisal Qualifications Board of the Appraisal Foundation that demonstrate knowledge, character and competence. An appraisal by either a state certified or a state licensed appraiser is required for real estate-related transactions unless the transaction value is less than US $250,000, no lien has been taken, the transaction is not secured by real estate or the loan is primarily a business loan. By contrast, all transactions of US $1 million or more must be appraised by a state certified appraiser. All nonresidential transactions exceeding US $250,000 must be appraised by a state certified appraiser. All transactions that do not specifically require the services of a state certified appraiser can be completed either by a certified or a licensed appraiser. However, any appraisal provided by a licensed appraiser must be approved and co-signed by a certified appraiser.

Real Estate Lending Policies. Agency regulations require each bank to adopt and maintain a written policy that establishes appropriate limits and standards for the extension of credit secured by liens on real estate. Among other factors, the policy must identify the bank's lending area, establish diversification limits, require prudent underwriting standards, establish loan appraisal requirements, and consider other factors related to the loan decision process. In short, each bank must specify information and establish limits to guide: 1) loan purpose analysis, 2) loan repayment analysis, 3) loan structure analysis and 4) loan monitoring. It is instructive to separately identify some specific data banks are required to consider when adopting real estate loan policies:

Maximum loan amount by property
Maximum loan maturity by type of property
Amortization schedules
Pricing structure for different types of loans
LTV ratios by type of property
Minimum standards for net worth, cash flow, and DSCR for the borrower and the property
Requirements for feasibility studies and sensitivity and risk analyses for properties

Pre-leasing and pre-sale requirements for income-producing property
Standards for the use of interest reserves
Requirements for takeout commitments
Minimum requirements for loan agreements

This listing is not meant to provide an exhaustive set of factors that bank supervisors expect bank policies to include; the listing is illustrative. The real estate loan policy standards were required after the devastating losses incurred by banks during from real estate loans in the 1985 to 1994 period. The policy guidelines represent the cost of lessons learned from bad underwriting, flawed appraisals and a volatile business and real estate cycle.

Applications to Poland and the NBP

There is not yet a sufficient base of real estate data, to include pricing, price volatility, defaults and loss severity, by which to empirically support changing prudential regulations crafted by the NBP. However, one can compare the prudential regulation established in the U.S. and by analogy compare them to the emerging economic, legal, appraisal and banking systems of Poland.

Risk-based Capital Weights. Currently, the NBP weights both residential and commercial real estate loans with a 100 percent risk weight for purposes of risk-based capital rules. The weights are reasonable given the credit problems related to the sharing of data, delay problems of registering a lien in the Land Register, legal problems of enforcing a lien relative to a Legal Mortgage and a State Privilege Mortgage, the lack of definitive principles for appraisals and appraisal standards, the common floating rate loan structure, and the newness of the market economy. The NBP may wish to consider reducing the risk weight for performing residential mortgage loans that possess a LTV not exceeding 60 percent to a 75 percent or 80 percent risk weight. The change would be based on public policy motives designed to promote financing of homes. Once Poland has a longer empirical base that encompasses at least one business cycle by which to judge default and loss severity, the NBP may elect to modify the risk weight. It is important to note that if banks need to keep too much capital for any asset in relationship to profit contribution potential, banks will not provide such credit or will charge a higher rate to offset the capital rule. There is no reason to modify or consider modifying the 100 percent risk weight for commercial real estate loans.

Loan-to-value Rules. A LTV ratio of 60 percent specified (or even 80 percent partially allowed) under the *Act on Mortgage Bonds and Mortgage Banks* are considered low in the U.S. for residential home loans. The "low" LTV limit partially offsets the prior problems enumerated applicable to sharing of credit information, legal registration, enforcement of liens, priority of liens, lack of well-defined appraisal principles and the adjustable rate feature. Yet, the LTV ratio has been found to be a good predictor of the probability of default and the loss severity of a home loan. Such standards may prove less useful for commercial real estate. The DSCR has been found a better predictor of the probability of default than the more commonly used LTV. The LTV provides a reasonable proxy for loss severity in commercial real estate loans.

Duff & Phelps, another credit rating agency, has published guidelines to assess the relative risk of securities secured by commercial real estate loans. The guidelines include both LTV and DSCR limits. Securities rated "AAA" and "AA" are high-grade, "A" and "BBB" are medium-grade, and "BB" and "B" are low-grade. In the U.S., banks may only invest in medium-grade and high-grade securities. The following list indicates how a 60 percent or a 70 percent LTV would be judged.

Apartment Loan 60 percent LTV (BBB), 70 percent LTV (BB)
Warehouse Loan 60 percent LTV (BBB), 70 percent LTV (BB)
Office Building Loan 60 percent LTV (BB), 70 percent LTV (B)
Retail Area Loan 60 percent LTV (A), 70 percent LTV (BBB/BB)

Higher LTV ratios lead to lower credit ratings. Generally, a 70 percent LTV represents a low-grade security. The LTV limits differ by property; real estate more susceptible to the loss of a tenant or properties that incur more fixed costs are rated more severely. The evidence suggests that the NBP would be well advised to recommend banks and mortgage banks originate commercial real estate loans with a LTV not to exceed 60 percent stated in the *Act on Mortgage Bonds and Mortgage Banks*.

Loan-to-one-Borrower. Article 71 of the *Banking Act* allows banks to extend credit to one borrower or group of related borrowers equal to 25 percent of capital. The GINB must be informed when loans-to-one borrower exceed 10 percent of capital. The aggregate amount of loans exceeding 10 percent of capital cannot exceed 800 percent of capital. It may prove useful to illustrate the mathematics implied by the lending limit rules. Assume that a bank has capital equal to PLN 100 and that commercial real estate loans are weighted 100 percent for purposes of risk-based capital. The bank could support a maximum loan portfolio of PLN 1,250 given an 8 percent risk-based capital rule (PLN 100/.08). The following example illustrates how many loans within the portfolio could default with a 40 percent loss severity to cause a loss of capital equal to PLN 40. The loss of capital of PLN 40 would be sufficient for the bank to no longer be considered "adequately capitalized." In total, the bank could originate or purchase loans equal to PLN 1,250. The bank could make up to 125 loans of PLN 10, 83 loans of PLN 15, 62 loans of PLN 20 or 25 loans of PLN 25. The indicated loans equal 10 percent, 15 percent, 20 percent and 25 percent respectively of the bank's capital base of PLN 100.

Loan-to-one Borrower Example
Pln 100 Capital and 8 Percent Risk-based Capital
Support Pln 1,250 Commercial Real Estate Loans
Assume Loss Severity of 40 Percent

Factor	10 percent	15 percent	20 percent	25 percent
Number of Loans	125	83	62	50
Size of Loan (PLN)	10	15	20	25
Loss per Loan (PLN)	4	6	8	10
Number Loans Default	10	7	5	4

The example illustrates several factors. First, a bank should not be able to originate or purchase an aggregate amount of loans exceeding 800 percent of capital with an individual size in excess of 10 percent of capital if the assets are weighted 100 percent for risk-based capital and the minimum capital requirement equals eight percent. As illustrated, if a bank made 50 loans at PLN 25, the excess loans-to-one borrower equals PLN 750 or 750 percent of capital. Regardless, the exposure would be very high with 50 loans each originated at the legal limit. Only four loans of PLN 25 defaulting with a loss severity of 40 percent equal the losses incurred with 10 loans defaulting at PLN 10. A 40 percent loss severity rate is not unusual for defaulted commercial real estate. The NBP should consider reducing the maximum loan-to-one borrower limit for loans secured by commercial real estate. Given the lack of empirical data associated with commercial real estate volatility in Poland and the incomplete data base currently available from a complete business and real estate cycle, any percentage threshold must be derived qualitatively. Until more complete market data is available and until the credit/appraisal/legal/economic issues discussed previously are resolved, the NBP should consider limiting commercial loans-to-one borrower to 15 percent or 10 percent of capital. The smaller loan limit allows relatively more mortgagors to experience problems without dissipating capital. It is important to note that real estate losses often are correlated; the NBP should become concerned with excess concentration in commercial real estate loans regardless of the maximum loan-to-one borrower limit.

Other Regulatory Issues

The comparative study of prudential regulation identified a number of other issues that deserve discussion.

Banks in the U.S. that were unable to meet risk-based capital requirements in the late 1980s responded by *increasing* the number of 100 percent risk-weighted loans. Such loans were designed to increase interest and fee income and generate capital. Most observers would have expected capital-deficient banks to reduce the portfolio of high-risk assets. The portfolio shift further exacerbated capital ratios because the risk of the newly originated assets increased. By contrast, banks in the U.S. that failed to meet minimum capital requirement (equity/assets) responded by reducing assets, reducing asset risk and increasing capital. The NBP should consider adding a minimum Tier I capital-to-asset requirement, such as three or four percent. Given the other risks applicable to real estate lending, such as liquidity risk, and interest rate and foreign exchange sensitivity, a minimum capital ratio partially protects the system against financial problems created by factors other than credit risk.

The current call report filed by banks with the NBP does not appear to provide sufficient data to distinguish the type of loan originated or purchased, the interest/fees on classes of such loans, and the classification or default rate on separate categories of loans. Rapid growth in loans, new entry in a specific loan market, and high rate loans all would provide the GINB with information that indicates a need for closer supervisory review of a specific bank. However, such data, if required, still provides historical perspective of potential risk in a bank and the banking system. The NBP is encouraged to develop a survey that requires senior NBP inspectors in different regions of the country to indicate on a quarterly or semiannual basis whether banks are keeping current underwriting terms, liberalizing terms or tightening terms. The survey should include various types of loans, to include residential and commercial real estate. Finally, given the importance of economic and regional trends to the value of real estate, it is critical that the GINB continue to integrate the macroeconomics trends of the country and key geographic regions with inspection findings. If many banks are making commercial real estate loans, the loans carry a high rate, or Poland's economy is entering a recession or interest rates are increasing due to inflation or a restrictive monetary policy all should alert the NBP of increasing portfolio risk in Polish banks; the GINB should respond by more frequent examinations.

If a bank makes a bad commercial real estate loan and forecloses on the property, the bank will suffer and record a loss should the sale value not equal the value of the loan. If the bank settles with the mortgagor, the bank will suffer and record a loss should the offer not equal the loan. However, if a bank restructures the loan, it may be able to avoid the appearance of a loss. For example, a bank might offer a payment moratorium, reduce the interest rate on the loan, provide a longer term to amortize the loan, and so forth. Any loss would be recognized prospectively. The workout, therefore, may provide accounting advantages relative to foreclosure or settlement. Assume a bank had originated a PLN 10 million loan to be amortized with equal annual payments at 20 percent over a five year term. The annual payment equals PLN 3.34 million. Now, assume the mortgagor encounters problems and is unable to meet contractual obligations. The bank restructures a loan such that the terms are changed to PLN 2 million for six years. The total loan payments exceed the loan, but the bank is suffering a present value loss. If the restructured loan payments were to be discounted at the interest rate of the initial loan (20 percent), the present value of the workout equals PLN 6.65 million. The bank will now continue to earn 20 percent, but only on a lesser loan amount. The bank would recognize the loss today, rather than postpone the lost income to a future period. Workouts are a common resolution to commercial real estate loan problems in the US. Thus, especially given the time, uncertainty and expense associated with foreclosure in Poland, workouts could be a useful tool there as well. Accountants and bank regulators in the U.S. have wrestled with the arcane accounting issues illustrated above and have attempted to resolve some of the problems by adopting SFAS Number 114, *Accounting by Creditors of an Impaired Loan*.

The tenor or maturity of real estate loans originated by banks in Poland exceed the tenor of deposits by a substantial margin of five or more years. The maturity mismatch exposes banks to liquidity risk should depositors elect to withdraw funds from a bank due to perceived credit issues of the bank, systemic risk of the banking system or opportunities to earn a higher risk-adjusted rate of return elsewhere. Regardless of reason, the NBP should ensure that alternative sources of liquidity are available for banks with significant real estate loan portfolios. Although banks can obtain adequate liquidity via the interbank market as of early-1998, continued access is by no means assured. If a bank encounters credit quality problems or if the banking system suffers from external systemic risk, the interbank market often becomes very selective in placing funds. The NBP should consider accepting performing residential loans as collateral within a Lombard loan facility and/or develop a facility dedicated to providing advances secured by mortgage loans to qualifying banks and mortgage banks. The U.S. equivalent to such an agency is the Federal Home Loan Bank System. The Federal Home Loan Bank System borrows funds from the domestic and international financial markets at rates lower than available to member banks and savings banks. The funds raised are then loaned to member deposit institutions at a spread above the Federal Home Loan Bank System's cost of money. Unless Poland develops an equivalent mortgage finance lender, the NBP should consider establishing a framework for making secured loans via the Lombard facility to banks and/or mortgage banks. The maturity mismatch between real estate loans and deposits is sufficiently wide to warrant supervisory attention. The liquidity issue is related to Article 8 of the Banking Act.

The majority of illustrations applicable to classification of assets, the reserve for loan losses and other key asset quality issues in the Banking Act, Banking Regulation and the *On-site Inspection Manual* appear to relate to business loan examples. Although the Manual is well written, comprehensive and correct in current emphasis, it should be expanded prior to significant real estate lending by banks in Poland. The *On-site Inspection Manual* should be expanded to illustrate key aspects of real estate loan risks encountered by banks. The expansion should cover residential lending, commercial real estate lending and construction lending. The material should address transaction risks of lending and portfolio risks of lending. Transaction risks include the process of evaluating the character, capacity, capital, collateral and conditions of a loan from the loan purpose, loan repayment analysis, loan structure and loan monitoring stages. Portfolio risks include the effect of a real estate loan and portfolio on a bank's capital adequacy, asset quality, management, earnings, liquidity and risk sensitivity. The material should be supplemented with classes for inspectors and regulatory supervisors.

To date, the majority of Polish banks active in the real estate market originate adjustable-rate or dual-index loans. The variable rate feature reduces the interest rate exposure and sensitivity of banks. If banks subsequently originate long-term, fixed-rate mortgages funded by shorter term deposits, the banks encounter interest rate risk in addition to liquidity risk previously discussed. At present, interest rate risk exposure does not appear to be a major issue for the NBP as related to mortgage lending. However, credit risk and asset quality issues are critical to the safety and soundness of the Polish banking system. A recent survey by Robert Morris Associates of 64 banks in the U.S. with assets exceeding US $5 billion indicate how bankers currently manage credit risk: 1) 63 percent of banks are expanding the number of borrowers to reduce the consequence of one debtor defaulting, 2) 59 percent are lending to high quality borrowers to reduce exposure to debtors more susceptible to default, 3) 51 percent are setting the interest rate on loans to account for risk (i.e., more risky loans carry higher rates), 4) 45 percent are reducing exposure to loans-to-one borrower by purchasing or selling participation in larger loans, 5) 33 percent are diversifying their loan portfolio geographically to reduce the consequence of a localized "boom to bust" economic trend, 6) 20 percent are diversifying their loan portfolio among a variety of industries and types of loans to reduce the consequence of an industry reversal, and 7) only 10 percent are exploring the use of credit derivatives. Very simply, hedging credit risk is viewed as the last resort by large U.S. banks to manage asset quality. Given the lack of interest rate risk currently applicable to real estate loans and the importance of credit risk to both the NBP and Polish banks, risk management should focus on credit risk and underwriting. Strong underwriting, good internal controls, adequate risk-based capital standards, lower loan-to-one borrower limits, and enhanced appraisal principles are the key to risk management in Poland. Hedging does not yet appear to be a likely method of managing risk for PLN-denominated loans.

LESSONS LEARNED AND RECOMMENDATIONS FOR POLAND

Summary of Lessons Learned from U.S. Losses in Real Estate Lending

As banks in Poland increase real estate lending, the NBP must ensure that its prudential regulation is appropriate to the risk elements encountered in loans funding residential, commercial and construction property. As has been discussed above, commercial banks and savings banks in the U.S. encountered significant problems with real estate loans between 1985 and 1994; thousands of banks failed due to losses associated with real estate loans, especially commercial real estate loans. The losses reflected:

Regional "boom to bust" economic trends; real estate loans were advanced with too optimistic assumptions regarding cash flow and value.

Regulatory restrictions that prevented the diversification of obtaining deposits and making loans in geographically diverse areas; real estate loans were concentrated by type or location.

High loan-to-asset ratios; the less marketable loans placed liquidity pressure on banks when depositors and the interbank market withdraw funds from weak institutions.

High commercial real estate-related loan-to-asset ratios; commercial real estate lending is an inherently more risky loan than residential real estate lending.

High interest rates and fees derived from real estate loans; the high rates reflected even higher risk.

Liberalization of prudential regulation; the Office of the Controller of the Currency (OCC) increased loan-to-one borrower limits from 10 percent of capital to 25 percent of capital just prior to the collapse of the U.S. real estate market in the late 1980s.

As was noted above, the U.S. Congress and the bank regulatory agencies attempted to respond to the problems in real estate lending by applying a high asset weight (i.e., 100 percent) for commercial real estate loans related to risk-based capital rules, establishing more stringent appraisal guidelines, establishing recommended loan-to-value limits for different types of real estate loans, and requiring risk management procedures to be implemented in banks making real estate loans.

Recommendations for Poland

The following recommendations are designed to allow the NBP and the GINB to maintain the safety and soundness of Polish banks active in real estate lending, yet encourage competition and efficiency within the banking and real estate markets.

Monitoring Banks and Real Estate Loan Risk

Monitoring Real Estate Lending. Within the framework of GINB s already established inspection function, real estate lending should receive explicit attention. In addition, NBP should carefully monitor banks making real estate loans for the first time, banks which have rapidly increased their real estate portfolios, banks with a heavy investment in commercial real estate loans, banks with a high loan-to-asset ratio, and banks originating high-rate real estate loans. This monitoring process requires introduction of a *quarterly survey of underwriting trends* by experienced inspectors, more *detailed call reports* that differentiate the type of loan and interest income, and continued interaction with supervisory analysts currently responsible for *assessing economic trends* in Poland. Detailed recommendations include the following:

Detailed Call Report. The NBP should require banks to subdivide investment in, and interest income derived from, real estate loans to precise categories of loans. This would include, among other loan categories, both residential and commercial real estate loans. A more precisely defined call report will allow the NBP to focus on banks originating or purchasing real estate loans for the first time, and/or making potentially more risky real estate loans as supported by "high" interest income, which is invariably related to high credit risk, foreign exchange exposure, or interest rate sensitivity. The NBP should schedule examinations quickly for banks initially entering the real estate finance market, thereby ensuring that policies, procedures and personnel are adequate in relationship to the new activity. The NBP should also carefully monitor banks making higher risk real estate loans.

Quarterly Survey. The NBP should request senior bank inspectors to complete a quarterly survey of real estate lending trends from banks examined in their region of Poland. The survey should be subdivided by type of loan, and size of institution and geographic location. The loans reviewed should include commercial real estate loans and residential real estate loans as two of several categories sampled. The quarterly survey should ask senior inspectors to note the percentage of banks: (1) easing underwriting standards; (2) not changing standards; or (3) tightening standards. Examiners must be provided with guidelines and factors to consider when assessing underwriting shifts, if any, in credit standards. Illustrative factors include loan-to-value ratios, debt service coverage and effort ratios, restrictive covenants included in loan agreements, required guarantees, and so forth. The results of the survey will allow the NBP to anticipate changing credit standards prior to assessing shifts in interest income, classifying assets, or observing loan losses.

Macroeconomic Indicators. The NBP should ensure that economists employed by NBP continue to communicate to the GINB any material shifts in Poland's economy that would adversely affect asset quality. Illustrative factors include poor results for Gross Domestic Product, unemployment, and inflation-adjusted rates of interest. The national economic analysis should be disaggregated to the regional level and regional inspectors should be alerted to geographic areas growing or contracting at a materially different rate than Poland as a whole. Real estate values are especially prone to "boom and bust" cycles; economic monitoring is a critical component to supplement the quarterly underwriting survey and more precisely defined call report recommended above.

Prudential Regulation

Summary. A number of important topics in prudential regulation are discussed below, and recommendations or suggestions made to NBP. The topics include (1) risk weights for residential and commercial lending; (2) legal and administrative reforms that bear on housing finance in general but also impact the prudent values of the risk weights; (3) capital-to-asset requirements; (4) credit-to-one borrower lending limits; (5) accounting for restructured loans; and (6) liquidity issues. The recommendations are as follows:

Risk Weights for Residential and Commercial Lending. It is suggested that NBP retain the 100 percent risk-weight for commercial real estate loans and residential real estate loans. With regard to residential lending, it is recommended that the National Bank of Poland may wish to consider an *interim strategy*. At the present time, the National Bank of Poland is not advised to reduce the risk-weight to 50 percent, which is common in many other countries; rather, NBP should consider waiting until more empirical evidence is available to measure residential real estate risk in Poland over a business cycle. Secondly, improvements in the legal and administrative framework for lending, such more as timely loan registration, changes in liquidation priority, and establishment of improved appraisal principles (see below) could also have an important impact on perceived and actual risk. Thus, as an interim measure, NBP could assign performing residential mortgage loans, underwritten with a moderate loan-to-value ratio of 60 percent or less, a 75 percent or 80 percent risk-weight for risk-based capital purposes.

It is important to emphasize that the recommended change in risk weight for residential lending is not based on empirical analysis of asset quality or default risk in Poland (or in the U.S.). Rather, selection of this interim, more conservative, risk-weight level represents the author s personal judgement on the trade-off between the desire to encourage housing lending while protecting the safety and soundness of real estate lending. Again, this suggestion should be viewed as an interim measure; the more conventional 50 percent risk weight should be considered for residential loans with certain profiles if experience with these newly growing portfolios supports a less conservative parameter.

Legal and Administrative Reforms. It would also be desirable that reductions in the risk weight for residential loans be accompanied by a number of legal and administrative reforms. These include the promulgation of appraisal principles by the GINB (discussed below) and at least a review of issues surrounding the debate over the statutory lien. Because payments to the Deposit Guaranty Fund are equal to 0.4 percent of risk-weighted assets, the NBP should anticipate that lower risk weights accorded residential real estate loans will produce lower income for the Fund. Commercial real estate loans should be continue to be categorized as a 100 percent risk-weighted asset for purposes of risk-based capital.

Capital-to-Asset Requirements. Regardless of asset risk or portfolio management and diversification, the NBP should consider requiring banks to meet minimum Tier I capital-to-asset requirements. For example, each bank should maintain some funding by Tier I capital equal to at least three or four percent of assets. The risk-weighted asset categories largely reflect perceptions of asset quality and default exposure. Real estate loans and other assets common in bank portfolios carry other consequences related to risk management; liquidity, interest rate and foreign exchange sensitivity are common examples. Until the NBP is able to fully incorporate such factors into minimum risk-based capital rules, a minimum Tier I capital-to-asset requirement will enforce operating discipline in the banking system.

Credit-to-One Borrower Lending Limits. It is recommended that NBP reduce the loan-to-one-borrower limit from 25 percent to 15 percent of capital for commercial real estate loans to ensure banks obtain a more diversified portfolio and maintain adequate capital should credit problems develop in Poland's commercial real estate market. Thus, NBP should modify Article 71 of the Banking Act that allows banks to extend credit-to-one borrower equal to 25 percent of capital. Given the financial risks of commercial real estate lending, the continuing lack of full disclosure related to sharing of credit information among banks, problems related to the timely registration of a lien on real estate, and the low priority established in foreclosure, it is felt that this is a prudent course to follow.

Accounting for Restructured Loans. NBP should enact more restrictive accounting for loans restructured due to problems of the debtor. Rather than allow banks to restructure loans and recognize financial problems prospectively, the NBP should propose that banks discount the cash flow of workout loans by the effective rate of the restructured loan when first originated. Otherwise, banks may be encouraged to provide debtors substantial relief rather than focus on the timing and risk of cash flow relative to a settlement or foreclosure.

Liquidity Issues. NBP/GINB should encourage the monetary authority within the NBP responsible for providing Lombard loans and/or refinance credit to banks to develop legal, documentation, and credit standards to accept performing and low loan-to-value ratio residential mortgage loans as collateral for banks experiencing liquidity problems due to the term mismatch of real estate loans and deposits. The interbank market often develops problems when selected banks encounter credit problems.

Regulation of Appraisal

Summary: Regulation of Appraisal. A lengthy set of recommendations with regard to appraisal are proposed below. These include recommendations for (1) establishment (acceptance or rejection) of final valuation by certified and licensed appraisers rather than by bank personnel; (2) establishment of appraisal principles by NBP, to which banks would respond by establishing appraisal policies in accord with NBP s principles; (3) hiring by NBP of at least one certified appraiser, or training an existing inspector and expanding the number of certified appraisers regionally as real estate lending increases within the banking system; (4) working with the Polish Federation of Valuers to agree on a certification approval process for licensed appraisers; and (5) establishment of more conservative rules for use of the three valuation models, including which models should be used for commercial and residential appraisal and how differences in results of the models should be reconciled. Finally, to promote consistency, fairness and competition within the Polish real estate finance market, the same principles should, in general, apply to loans underwritten by both universal banks and mortgage banks (excepting, of course, specifics of the Mortgage Banking Act that apply solely to mortgage banks and mortgage bonds).

Final Valuation. Bank management should accept (or reject) the bank mortgage value established by certified and licensed appraisers. The mortgage value provides one source of information that affects the decision to offer, structure and price a mortgage loan. If bank management believe the appraisal does not meet the definition of value established by the NBP or the underlying assumptions and models employed are not realistic, documented or in conformity with appraisal principles, the appraisal report should be rejected.

If the bank mortgage value is lower than expected by a bank, the bank may or may not decide to proceed. The legislation (the Mortgage Banking Act) allows 10 percent of loans refinanced to possess a loan-to-value ratio up to 80 percent so a few high LTV loans are permissible. Such loans should then be accompanied by higher effort and debt service coverage ratios, more comprehensive evidence of credit history and prospects, additional credit enhancements (e.g., guarantees) and/or the loan should be priced with a higher combination of fees and interest rate. If the bank mortgage value is higher than expected, the bank could advance additional funds or reduce the pricing, given the lower level of implied risk.

Appraisal Principles. The NBP should establish appraisal principles to be followed by both universal and mortgage banks. The principles should identify the definition and assumptions related to bank mortgage value, establish the time period allowed between the disbursement of funds and the appraisal report, define the concept of appraiser independence and prohibit any fees related to the value of property derived, allow residential real estate to be valued by licensed appraisers who utilize a short appraisal form and simplified appraisal procedure, require all values to be supported by at least two valuation models, require that commercial real estate be valued by certified appraisers, work with appropriate appraisal societies in Poland to establish licensing and certification procedures, and so forth.

The banks should then identify their own appraisal policies that are consistent with the NBP's principles. Thus, each universal bank/mortgage bank would prepare its own policies and guidelines regarding the appraisal process subject to NBP review and approval. The guidelines should be consistent with the principles promulgated by the NBP. Each bank may wish to list annually the approved and certified appraisers to be used by the bank to conform to the terms and conditions of the Act.

The appraisal principles should be developed with the professional assistance of certified appraisers from Poland and various other countries if so desired. Ultimately, the principles should reflect the conditions of Poland's real estate market, housing finance system and mortgage law. There are many issues related to the promulgation of principles of real estate valuation. The list which follows is designed to provide NBP with a sample of concerns that should be addressed within the principles. These include:

The precise definition and assumptions related to bank mortgage value (i.e., market value common in the U.S. versus the long-term sustainable value more common in Germany).

The required date applicable to an appraisal relative to the funding of a loan (e.g., 90 days prior to disbursement versus a longer period, such as one year).

A definition of "independence" of appraisal and prohibition that appraisal fees may be linked to the final bank mortgage value.

The requirement that residential mortgage values must be based on at least two appraisal models (i.e., comparable/market and cost/material) and that differences must be reconciled.

The requirement that commercial mortgage values must be based on three appraisal models (i.e., market, cost, and income) and that differences must be reconciled.

The requirement that bank mortgage values for commercial real estate and residential mortgage loans above a given level should be established by certified appraisers, while residential loan appraisal reports below the threshold could be completed by licensed appraisers and reviewed by certified appraisers.

The allowance for residential loans below a given level to be established by a simplified procedure and recorded on a short form.

The explicit indication that a sample of bank mortgage values will be reviewed periodically by competent inspectors recognized as certified appraisers employed by the NBP.

The recognition that recognized appraisal groups in Poland, in conjunction with NBP, will establish a list of appraisers or appraisal firms that consistently or flagrantly do not conform to principles established by the NBP.

The recognition that appraisers should have an opportunity to notify the NBP of those banks that are providing pressure for appraisers to artificially or arbitrarily inflate the value ascribed real estate.

Regulatory Controls. As discussed below, NBP should consider having one or more inspectors certified by the appropriate appraisal agency in Poland. The review inspectors should periodically test check the reasonableness of bank mortgage values. In particular, the review inspectors should ensure that certified appraisers are valuing property in compliance with appraisal principles established by the NBP and with guidelines or policies established by each mortgage bank. Illustrative questions include: 1) Was the appraisal completed prior to the disbursement of funds yet was it sufficiently recent? 2) Is the appraiser qualified and independent? 3) Does the appraisal include a sufficient number of models and are differences in value reconciled? 4) Are the assumptions used to value real estate reasonable and well documented? 5) Does the bank mortgage value meet the definition of value required by NBP appraisal principles?

The regulatory principles should provide an opportunity and a system to discipline, suspend, fine or expel certified appraisers unable or unwilling to abide by NBP appraisal principles. The listing should be publicly available. Similarly, the regulatory principles should provide an opportunity and a system to allow certified appraisers to indicate to the NBP situations where pressure is applied to change a value to meet mortgage bank expectations.

Certification. The NBP should work with appraisal experts and the Polish Federation of Valuers to establish a certification process required to value commercial real estate and to review the work of licensed appraisers. The certification process should include course work, examinations, and experience sufficient to value virtually any type of real estate in Poland. Licensed appraisers would not need to exhibit the same level of expertise as certified appraisers, but should have courses, exams and experience sufficient to employ a simplified valuation of residential real estate using a short-form report.

Valuation Models. Appraisers in Poland and the Polish Federation of Valuers utilize the same three models of valuation that are standards worldwide market/comparables, cost, and income. Issues may arise, however, in at least areas: (1) the substantive interpretation and valuation methodology of the model and, as a corollary, the requirements of databases and information systems which support it; (2) the reconciliation process for difference results among the models; and (3) the number of models required for residential and commercial valuations (also see the discussion above under appraisal principles).

Model Definition. With regard to model definition, as noted above, Poland is in the process of analyzing the market value approach (as practiced in the U.S. or U.K.) versus the mortgageable value approach (as practiced in Germany). As another example, a correct interpretation of the cost model should be to identify what a similar structure would cost today to reproduce, not to record the historical cost of a property. Also, the value of a new structure would need to be adjusted for factors related to economic, physical and functional obsolescence and depreciation. The cost model provides a value that should be reconciled with both comparable and income models.

Adjustments Due to Reconciliation. Examples of reconciliation issues include the following. If the income value of a commercial property is substantially greater than that implied by cost, the market will likely respond by building competing structures that will place pressure on both net operating income and the capitalization rate. Admittedly, there will be a time lag before new buildings will be able to compete with existing income-producing properties; however, it is likely that the competitive pressure will ultimately lead to a lower implied value by the income model. (This argument holds, of course, only if there is adequate labor, financing and materials by which to build new structures.) As another example, if the comparable values for residential property are substantially greater than that implied by the cost model, the appraiser should check to determine that the comparable properties are truly similar and that appropriate adjustments have been made for differences in construction, quality, utility, location and so forth. Very simply, the cost model provides a benchmark for valuing a property; the value may highlight situations where appraisers may have otherwise reached unsupported valuations.

Required Number of Models. It is recommended that the valuation of residential real estate be addressed by at least two models and that commercial real estate value be based on all three models. However, the valuation principles should recognize that all accepted models cannot be applied or should not be applied in all cases for every real estate. The valuation principles should provide an opportunity for appraisers to indicate why a given valuation model could not be used when valuing property. However, if each appraisal provided by a certified appraiser or an appraisal firm always disregards one or more models, the NBP review inspectors would have reason to discipline the firm. Please note that the NBP's definition of bank mortgage value will affect the number of models required to derive an opinion of value. It may be possible that one or two models would suffice.

Personnel, Training, and the On-site Inspection Manual

Summary. It is suggested that NBP/GINB expand the number of illustrations of real estate loan transaction risk elements and portfolio risk elements for inspectors evaluating banks. Such illustrations could be included in expanded sections of the *On-site Inspection Manual*. In addition, since monitoring of real estate lending is a relatively new field, NBP should provide inspectors with formal training on the specific risks inherent in real estate lending.

Real Estate Examples in the On-site Inspection Manual. NBP should expand the *On-site Inspection Manual* to include three sections related to real estate lending: residential, commercial, and new construction.

The Manual should emphasize the *transaction risks* related to evaluating credit, assessing the reasonableness of the appraisal, reviewing key credit ratios, monitoring the loan, classifying problem loans and charging off losses. In addition, it should emphasize the *portfolio risk* created by real estate lending related to capital, asset quality, management, earnings, liquidity and risk sensitivity.

The Manual should illustrate parameters of *Article 8 of the Banking Act* as related to real estate lending in formal inspector training and within new sections of the *Manual.* First, the maturity of real estate loans tends to be much longer than existing bank deposits. The term mismatch creates potential liquidity problems should confidence disappear in the interbank market or the banking system. Second, there is no established secondary market for real estate loans in Poland. Consequently, banks active in real estate lending must provide for potential liquidity problems by investing relatively more funds in short-term, highly marketable securities and must establish backup sources of borrowing should liquidity problems develop.

NBP should provide more examples of problems that inspectors may use to classify problem real estate loans. The current examples are appropriate to business loans in Poland; however, commercial real estate loans require different sources and interpretations of data. In large part, formal inspector training and new sections of the *On-site Inspection Manual* would be able to address specific examples of credit problems. For example, inspectors should ensure that the appraised value of real estate derived by the income or comparable models should be bounded by the cost model. The examples would supplement *Article 70, Article 73 and Article 74 of the Banking Law.*

Training of NBP staff in Appraisal Policy and Real Estate Risks. It is suggested that NBP/GINB hire and/or train one or more staff appraisers who have met certification requirements established by the appropriate appraisal society or societies in Poland. The staff appraiser would be responsible for providing expertise to other inspectors with questions related to appraisals, related assumptions used in accompanying models and the independence and capability of certified appraisers. Finally, as indicated above, NBP should provide formal training regarding the evaluation of real estate loan transaction risks and portfolio risks for inspectors once appraisal guidelines have been promulgated, prudential regulatory changes have been approved and the *On-site Inspection Manual* has been expanded.

SUMMARY

In closing, as noted above in the Executive Summary, the National Bank of Poland has developed a set of well-reasoned prudential rules to restrain excessive risk-taking by banks in Poland, and appears especially committed to continuous monitoring of risk within the banking system. This report has recommended that the National Bank of Poland consider modifying or expanding certain prudential rules that relate to real estate lending and enhance monitoring efforts to ensure that banks in Poland do not engage in excessively risky real estate lending (and thus avoid replicating the pattern of liquidations of U.S. banks that were related to problem real estate loans). The National Bank of Poland can learn from the expensive lessons related to real estate lending in the U.S.; however, there are clearly differences in law, appraisal standards, credit information and economic development and to the full extent possible the report s recommendations have been developed in light of these differences.

LIST OF ACRONYMS

DIMs	Dual-index mortgages
DSCR	Debt service coverage ratio
GINB	General Inspectorate of the National Bank of Poland
LTV	Loan-to-value
NBP	National Bank of Poland
UIC	Urban Institute Consortium
WIBOR	Warsaw Interbank Offer Rate

ANNEX A

SELECTED REFERENCES

Christopher B. Barry, Mauricio Rodriquez and Joseph B. Lipscomb, "Diversification Potential from Real Estate Companies in Emerging Markets," *Journal of Real Estate Portfolio Management*, (Volume 2, 1996).

Loïc Chiquier, Dual Index Mortgages (DIMs): Conditions of Sustainable Development in Poland, prepared for USAID/Warsaw, (February, 1998).

Board of Governors of the Federal Reserve System, *Flows of Funds Accounts of the United States*, (March, 1998).

Federal Deposit Insurance Corporation, *History of the Eighties and Lessons for the Future*, (1997).

"Credit Risk, Credit Scoring, and the Performance of Home Mortgages," *Federal Reserve Bulletin*, (July, 1996).

Fitch Investors Service, L.P., "Rating Single-Borrower Commercial Mortgage Transactions," *Structured Finance*, (October, 1994).

Fitch Investors Service, L.P., "Commercial Mortgage Default Study," *Structured Finance*, (November, 1996).

Diana Hancock and James A. Wilcox, "Bank Capital and the Credit Crunch: The Roles of Risk-Weighted and Unweighted Capital Regulation," *Journal of American Real Estate and Urban Economics Association*, (Spring, 1994).

William C. Handorf and J. Minor Sachlis, "Commercial Real Estate Lending: From Ratios to the Option-pricing Model," *Real Estate Review*, (Summer, 1997).

William C. Handorf, "Revised Accounting Standards for Valuing Mortgage Loan Workouts," *Real Estate Review*, (Spring, 1996).

Regulation and Supervision of Real Estate Lending prepared for USAID, (October, 1997).

Michael J. Lea, Achim Dübel, Loïc Chiquier, William Handorf, and Jacek Łaszek, The Risks of Commercial Real Estate Lending, prepared for USAID, (December 1997).

National Association of Review Appraisers & Mortgage Underwriters, *The Most Common Errors & Deficiencies in Appraisal Reports*, (1980 and 1989).

Salomon Brothers, *Commercial Mortgage Securities: Market Development and the Rating Process*, (1992).